

PATENT
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IN THE SPECIFICATION

The following paragraph will replace all previous versions in the specification.

Paragraph [43]

[43] In another exemplary embodiment of the present invention as illustrated in Fig. 9, a call is handed off from an old SRP 14 to a new SRP 15. In this example, the mobile station (MS) 20, while engaged with a party within range of the old SRP 14, moves out of range of the old SRP 14 and into range of the new SRP 15. Channel quality messages being sent to the old SRP 14 from the MS 20 may indicate that the error rate has reached the handoff point (step 901) – i.e., because the MS 20 is moving out of range of the old SRP 14, the channel quality is attenuating to the point that handoff should occur to maintain the connection. At this point, the old SRP 14 may then send a Handoff Request message along with a list of handoff candidates (the Mobile Assisted Hand-Off list – MAHO list, for example) to the NSP 12 (step 902). Using MAHO as an example, the MS 20 may assist in assigning a voice channel by reporting its surrounding base stations' signal strengths to the current base station, for example. The NSP 12 may then verify the availability of a resource from the MAHO list, for example, and may send a Handoff Preparation message to a new SRP 15 (step 903). The NSP 12 may abort the handoff if no available resources are identified. If resources are available, however, the new SRP 15 may activate a new traffic channel and then send a message to the old SRP 14 to handoff the mobile station (MS) 20 to the new traffic channel (step 904). After receiving the message from the new SRP 15, the old SRP 14 sends a Handoff message to the MS 20 (step 905) (i.e., an IS-136 Dedicated DTC handoff message), which responds back an ACK to the old SRP 14. If the old SRP 14 does not receive this ACK response, however, the old SRP 14 may send a handoff failure message to the NSP 12 and the NSP 12 may inform the new SRP 15 to release allocated resources. However, if the response is received at the old SRP 14, the old SRP 14 may then instruct the NSP 12 to transfer the call to the new SRP 15 and may also deactivate the traffic channel and release other resources (step 906). The NSP may then send a message to the new SRP 15 for a conference VoIP call

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and also may send a message to the old SRP 14 to release the VoIP call (step 907). When the new SRP 15 detects that the MS 20 is on the new traffic channel, it may then send a SIP INVITE message to the SIP server 11 (step 908) which may send a message to NSP 12 for called number analysis (step 909). The NSP 12 analyzes the called number and responds back to the SIP server 11 after it realizes that the called number is not a mobile station (step 910). The SIP server 11 further finds out if the called number is a local SIP phone and forwards the INVITE message to the SIP phone 10 (step 911) which sends back a 180 RINGING message. The SIP server 11 relays the 180 RINGING message to SRP 15 (step 912). The new SRP 15 does not generate a ring back tone. The SIP phone 10 may send a SIP OK message to the SIP server ~~40~~ 11 which forwards it to the SRP 15 (step 913). The SRP 15 may respond with a SIP 200 ACK message back to the SIP Server 11 which forwards it to the SIP phone 10 (step 914). A voice path between the MS 20 and the SIP Phone 10 is established and is interconnected by the new SRP 15 (step 915). The new SRP 15 may send a message to the NSP 12 to indicate that the handoff is complete (step 916). The old SRP 14 receives the Release old Call message from the NSP 12 and may then send a BYE message to the SIP phone 10 via the SIP server 11 (step 917). The SIP phone 10 returns a SIP 200 OK message (step 918) and the old SRP 14 sends a CALL Release message to inform the NSP 12 that the call has been released by the old SRP 14 (step 919). The NSP 12 acknowledges with an ACK message (step 920).